# 18. The True Coracoid.

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(Text-figures 1 & 2.)

## Morphology.

In view of the long-standing existence of two diametrically opposite interpretations of the homology of the ventral elements or element * in the shoulder-girdle of vertebrates other than fishes, it is high time that morphologists should decide which they will adopt. It may be premised that the element (whichever it be) in the shoulder-girdle of the monotreme mammals and Permo-Triassic mammal-like reptiles entitled to bear the designation coracoid must be the one corresponding to the coracoid process of the human scapula, which is the type of that element. By anatomists generally the posterior ventral bone in the monotreme shoulder-girdle has been regarded as representing the true coracoid, and the anterior bone consequently considered as a superadded element, under the designation of precoracoid or epicoracoid; the single ventral element in the shoulder-girdle of birds and post-Triassic reptiles being identified with the one termed coracoid in the monotremes.

These identifications were disputed by myself in the Society's Proceedings for 1893 (pp. 172–4), where, upon the evidence of a distinct coracoidal element in the shoulder-girdle of a sloth, it was held that the so-called epicoracoid of the monotremes and mammal-like reptiles corresponds to the coracoid process of the human scapula, and is thus the true coracoid. Consequently, the bone in the aforesaid groups to which the latter name had been applied must receive a new designation, and the name metacoracoid was suggested for use in this sense. These homologies will be apparent from my original figure, of which a portion (text-figure 1) is herewith reproduced. A further inference was that when only a single ventral element is present in the shoulder-girdle, as in birds and post-Triassic reptiles, this, on account of having been identified with the posterior element in the monotreme shoulder-girdle, must also be a metacoracoid.

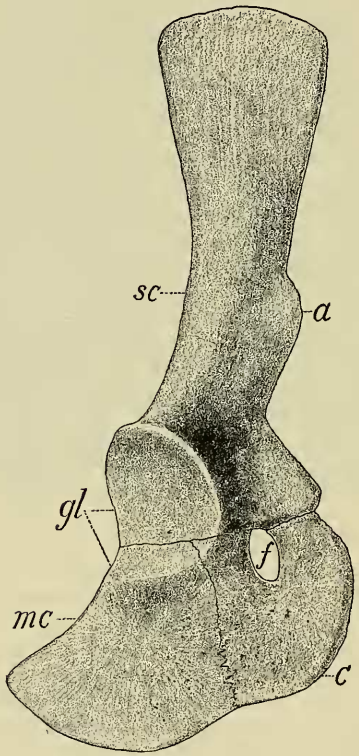
Among the great majority of naturalists these identifications have failed to gain acceptance. Recently, however, Prof. S. W. Williston, of Chicago University, who has devoted special attention to the osteology of the mammal-like reptiles, has accepted in his 'Water Reptiles of the Past and Present,' † my interpretation of the homology of the elements in the shoulder-girdle

* When the singular is used, reference is to one side only of the body.

† Chicago, 1914.

of monotremes and mammal-like reptiles, as is made clear by the accompanying diagrammatic illustration (text-fig. 2), reproduced from his fig. 19, p. 36. His researches, however, indicate that when one of the two ventral elements in the shoulder-girdle disappears, it is the posterior (and not, as previously supposed, the anterior) bone which is lost. This degeneration—as a preliminary

Text-figure 1.



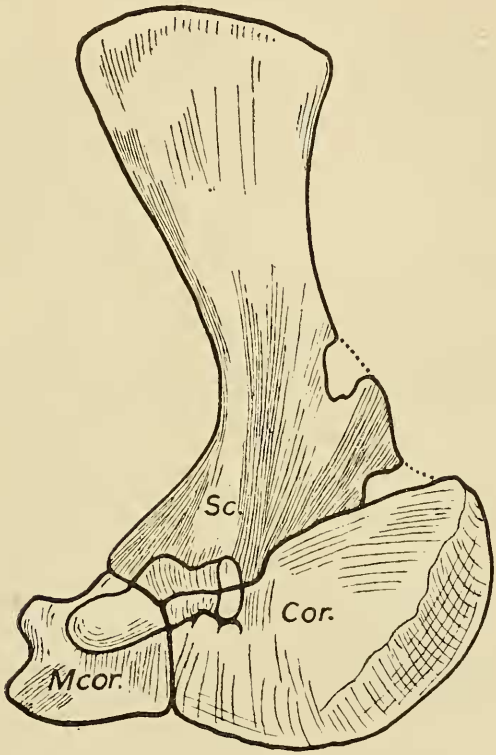

The right side of the shoulder-girdle of *Dicynodon*.

*sc*, scapula; *a*, acromion of scapula; *c*, coracoid; *mc*, metacoracoid; *f*, coraco-scapular foramen; *gl*, glenoid cavity.

to the ultimate disappearance—of the hinder element is exhibited in his figure, which illustrates a type in which the degeneration of that element has already become conspicuous, whereas in my original figure (text-fig. 1) the hinder element is fully as large as the front one. Consequently the element in birds and

post-Triassic reptiles universally known as the coracoid is entitled to retain that designation, as being the homologue of the human coracoid process and its equivalent the true coracoid of the monotremes and mammal-like reptiles; and the more extensive change of nomenclature advocated in my original article thereby avoided.

Text figure 2.




The right side of the shoulder-girdle of a Mammal-like Reptile (*Dimetrodon*).

*Sc.*, scapula; *Cor.*, coracoid; *Mcor.*, metacoracoid. (From Williston.)